Congratulations and Welcome

Udemy Course Structure

1. **Snowflake Architecture and Performance Management**

   a. Introduction
      i. Create Trial account
      ii. Know your UI interface
      iii. Shared and Non Shared Disk Architecture
      iv. High Level Architecture
      v. Create Virtual Warehouses
      vi. Scaling Policy
      vii. Create First Database and Table
      viii. Load CSV from public S3 bucket

   b. Snowflake Architecture
      i. Snowflake Editions
      ii. Credits
      iii. Credit Usage Scenarios
      iv. Credit to Dollar Storage cost
      v. Credit Storage Consumption

   c. Performance Management
      i. Performance Improvement Methods
      ii. Dedicated Virtual Warehouses
      iii. Dedicated Virtual Warehouses Creation
      iv. Scale Up and Scale Down
      v. Scale Out and Scale In
      vi. Maximize Caching
      vii. Maximize Caching demonstration
      viii. Clustering Keys
      ix. Clustering Cost
      x. Clustering Performance
      xi. Micropartitions

2. Access management and snowflake objects

a. Access management
   i. Access control and RBAC
   ii. Securable objects
   iii. Roles

b. Tables in snowflake
   i. Table Types
   ii. Database and schema type

c. User Defined Functions (UDF's) and Stored Procedures
   i. User defined functions (UDF's)
   ii. Stored procedures (SP's)
   iii. Secure UDF's and SP's

d. Views
   i. Non Materialized views
   ii. Materialized views

3. Data Movement - Techniques and Unloading

a. Data Loading techniques
- i. Types of Data load
- ii. Know snowflake stages
- iii. Install Snowsql
- iv. Internal Stages
  1. Userstage
  2. Tablestage
  3. Namedstage
- v. External Stages
- vi. COPY Command
- vii. COPY Transformation
- viii. File Format Object

b. COPY OPTIONS
- i. ON ERROR
- ii. SIZE LIMIT
- iii. RETURN_FAILED_ONLY
- iv. ENFORCE_LENGTH / TRUNCATECOLUMNS
- v. FORCE / LOAD_UNCERTAIN_FILES
- vi. LOAD_HISTORY
- vii. VALIDATION MODE
- viii. Logging rejected records
- ix. Data loading best practices

c. Data Unloading
- i. Data unloading theory
- ii. COPY into location - Internal Stage -> User stage
  1. Resolving max_workers must be greater than 0
- iii. COPY into location - Internal Stage -> Table stage
- iv. COPY into location - Internal Stage -> Named Internal Stage
- v. Unloading using Query
- vi. Unloading to Multiple Files

4. Data Movement - Data loading

a. Loading from AWS
   i. Create AWS free-tier account
   ii. Create S3 bucket, file and role
   iii. Storage integration object
   iv. Load file from AWS
   v. Unload data to AWS

b. Loading from Azure
   i. Create Azure free trial account
   ii. Create storage and container
   iii. Integration object
   iv. Load data from Azure
   v. Unload data to Azure

c. Loading from GCP
   i. Create GCP free trial account, create bucket and upload file
   ii. Integration object
   iii. Load data from GCP
   iv. Unload data to GCP

d. Loading Semi-Structured Data
   i. Introduction
   ii. Process and understanding the demo data
   iii. JSON: Load raw data and analyze nested objects
   iv. JSON: FLATTEN
        1. Array/Objects
        2. Hierarchical
   v. JSON: Data transformation and load
   vi. JSON: Querying Data
   vii. PARQUET: File load and transformation

e. Snowpipe
   i. Overview
   ii. Create snowpipe, load and configure
   iii. Troubleshooting and pipe refresh
   iv. Manage snowpipe

5. Dynamic Data Masking and Visualization

a. Dynamic data masking
   i. Overview
   ii. Create masking policy
   iii. Change, Unset and replace masking policy
   iv. Conditional masking

b. Data Visualization
   i. Snowsight - Dashboard and Visualization
   ii. Getting started with Tableau
   iii. Tableau visualization from snowflake data

c. Partner Connect
   i. Overview
   ii. Partner connect categories

6. Data Sharing and Data Protection

a. Data Sharing
  i. Overview
  ii. Data sharing demo of Table, External tables and UDF's.
  iii. Data share to a reader account
  iv. Imported privileges
  v. Data share - entire database
  vi. Data share operations - DDL and DML affect
  vii. Sharing views and materialized views

b. Time Travel
  i. Overview and retrieve data using "at" and "before"
  ii. Data restoration using direct method
  iii. Data restoration using indirect method
  iv. UNDROP
  v. Understanding retention time

c. Fail-Safe
  i. Overview
  ii. Fail Safe demo

d. Zero-Copy Cloning
  i. Overview
  ii. Cloning permanent tables
  iii. Copy grants and clone temporary external tables
  iv. Clone schema and database
  v. Swap
  vi. Clone using time travel and understand sharing vs cloning

e. Streams
  i. Overview
  ii. Consuming streams using insert, update and delete
  iii. Types of streams - default, append only. Consume stream using false condition
  iv. Insert only streams for external tables
  v. Multiple consumers with streams